



DISTRICT OF COLUMBIA
DFS
DEPARTMENT OF
FORENSIC SCIENCES

Forensic Science Laboratory | Public Health Laboratory | Crime Scene Sciences

FY 2019 Budget Oversight Hearing

Dr. Jenifer Smith
Director
April 19, 2018

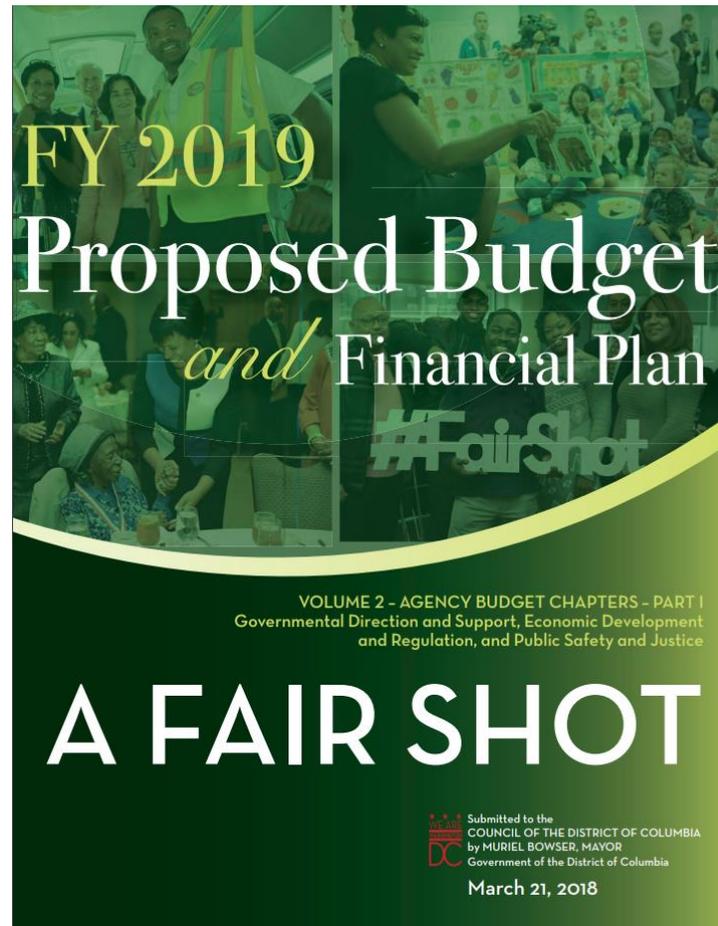


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MURIEL BOWSER, MAYOR

MAYOR BOWSER FY 2019 BUDGET



“Investments Build on the District’s Growth and Prosperity to Give More Washingtonians a Fair Shot”

§ 5–1501.02. DEPARTMENT OF FORENSIC SCIENCES ACT OF 2011

(a) There is established as a subordinate agency in the executive branch of the government of the District of Columbia, the Department of Forensic Sciences.

(b) The mission of the Department shall be to provide high-quality, timely, accurate, and reliable forensic science services with:

(1) The use of best practices and best available technology;

(2) A focus on unbiased science and transparency;
and

(3) The goal of enhancing public safety.



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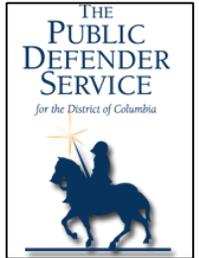
§ 5-1501.13 - STAKEHOLDER COUNCIL



There is established a Stakeholder Council, which shall consist of the following members:

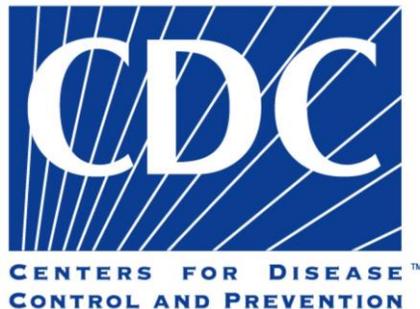
- (1) The Deputy Mayor for Public Safety and Justice;
- (2) The Chief of MPD;
- (3) The Chief Medical Examiner;
- (4) The Attorney General;
- (5) The United States Attorney for the District of Columbia;
- (6) The Director of the Public Defender Service for the District of Columbia;
- (7) The Federal Public Defender for the District of Columbia;
- (8) The Director of the Department of Health;
- (9) The Chief of the Fire and Emergency Medical Services Department;
- (10) The Director of the Department; and
- (11) The head of any other government agency that regularly utilizes the forensic science services of the Department.

(b) The chairperson of the Judiciary Committee of the Council of the District of Columbia shall be an ex officio, non-voting member of the Stakeholder Council.



FORENSIC SCIENCE AT DFS....

*“Application of scientific principals and technological practices to the purposes of assisting decision makers in matters of **criminal justice, national security and public health.**”*



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FY19 DFS BUDGET

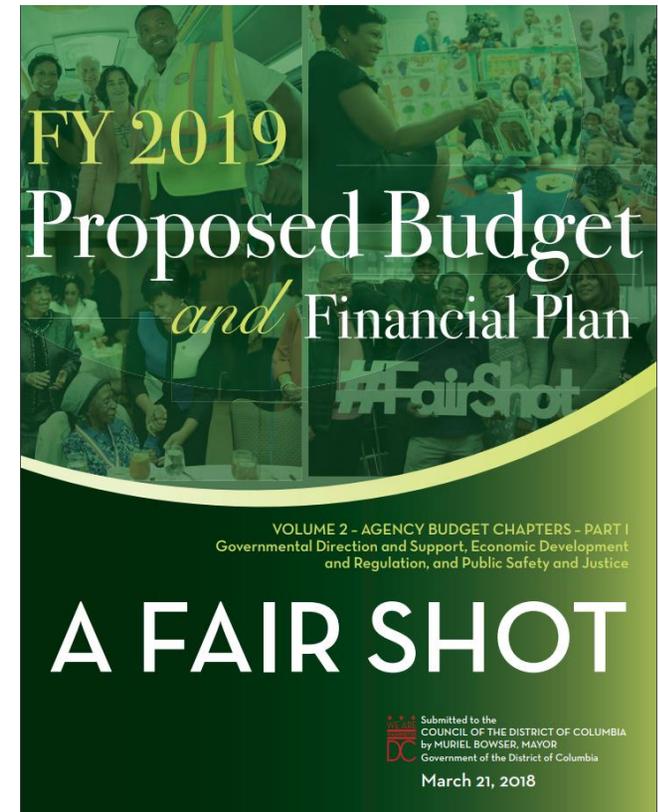
“STRONGER SCIENCE/SAFER STREETS”

- Provide high-quality, timely, accurate and reliable forensic science services with the use of best practices and best available technology;
- Maintain continued accreditation;
- Ensure a qualified workforce through efficient hiring and continual training;
- Provide discovery documentation to critical stakeholders for court procedures ; and
- Conduct crime scene investigations with a majority civilian work force supplemented with experienced MPD officers who possess crime scene experience.

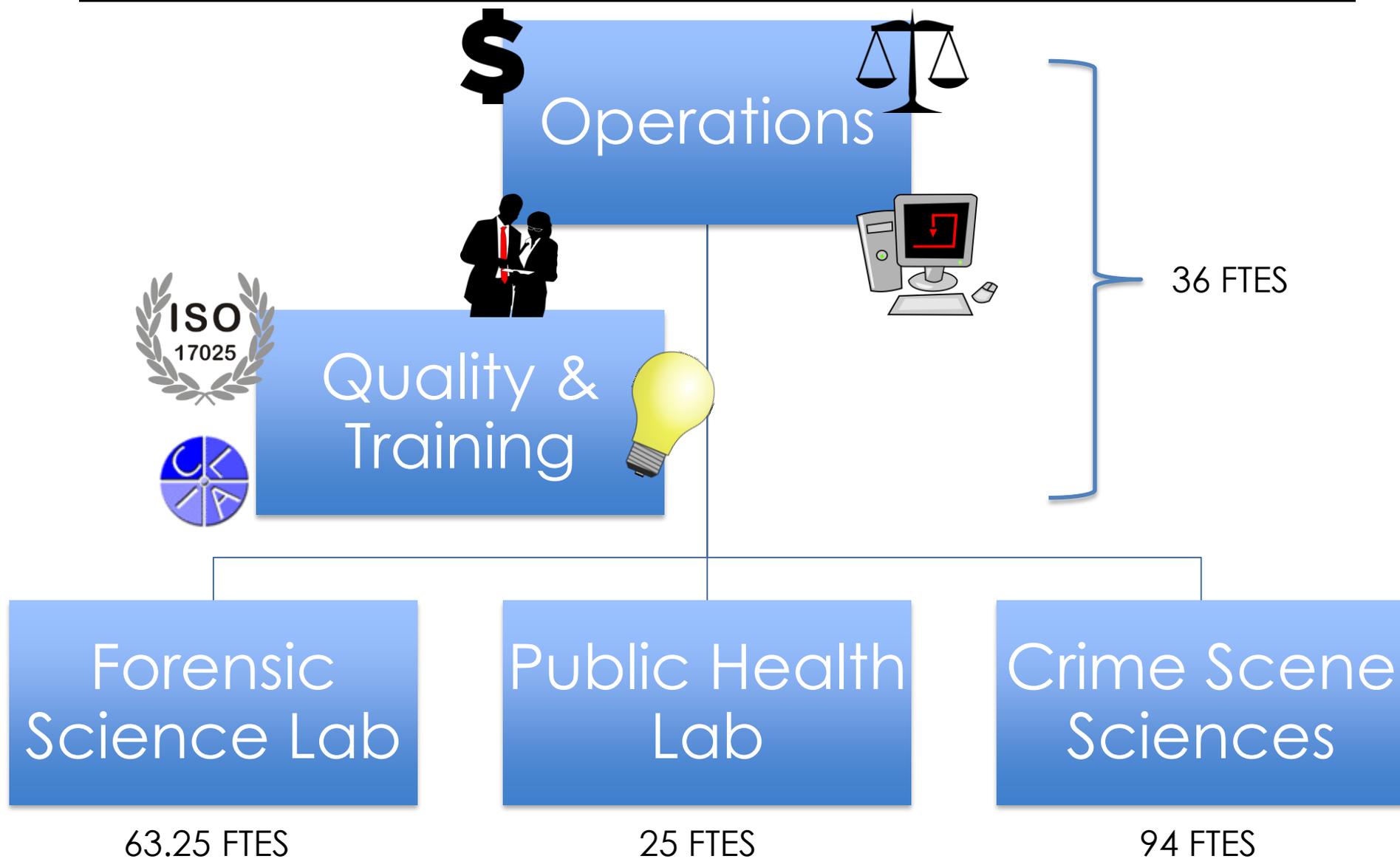
FY 2019 OPERATING BUDGET

Description	FY 2019
Budget	\$28,040,766
FTEs	218.25

Budget Component	Funding	FTEs
Local	\$26,10,720	207
Federal	\$459,784	5
Intra-District	\$1,480,262	6.25
Total	\$28,041,000	218.25



DFS ORGANIZATIONAL COMPONENTS



JANUARY 2018



Mayor Bowser Highlights 2017 Year End Crime Reductions and Lauds Turnaround at the Department of Forensic Sciences

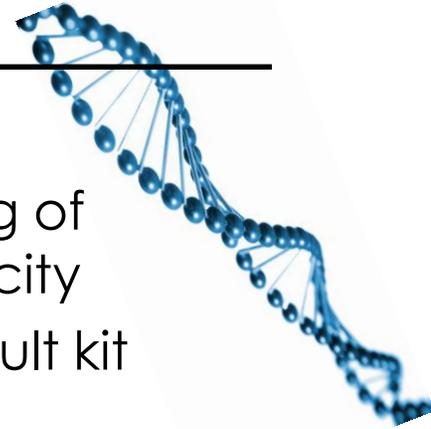


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DFS ACCOMPLISHMENTS



Elimination of DNA Sexual Assault Kit Backlog

- Forensic Biology Unit (FBU) reduced the backlog of forensic biology by increasing laboratory capacity
- Completely eliminated the District's sexual assault kit backlog

Established the Digital Evidence Unit

- Increased the District's investigation testing capabilities concerning a wide variety of cybercrimes and fraud

Established the Forensic Intelligence Unit

- Increase understanding of the "impact" of forensic services to more effectively apply analyses on most probative items

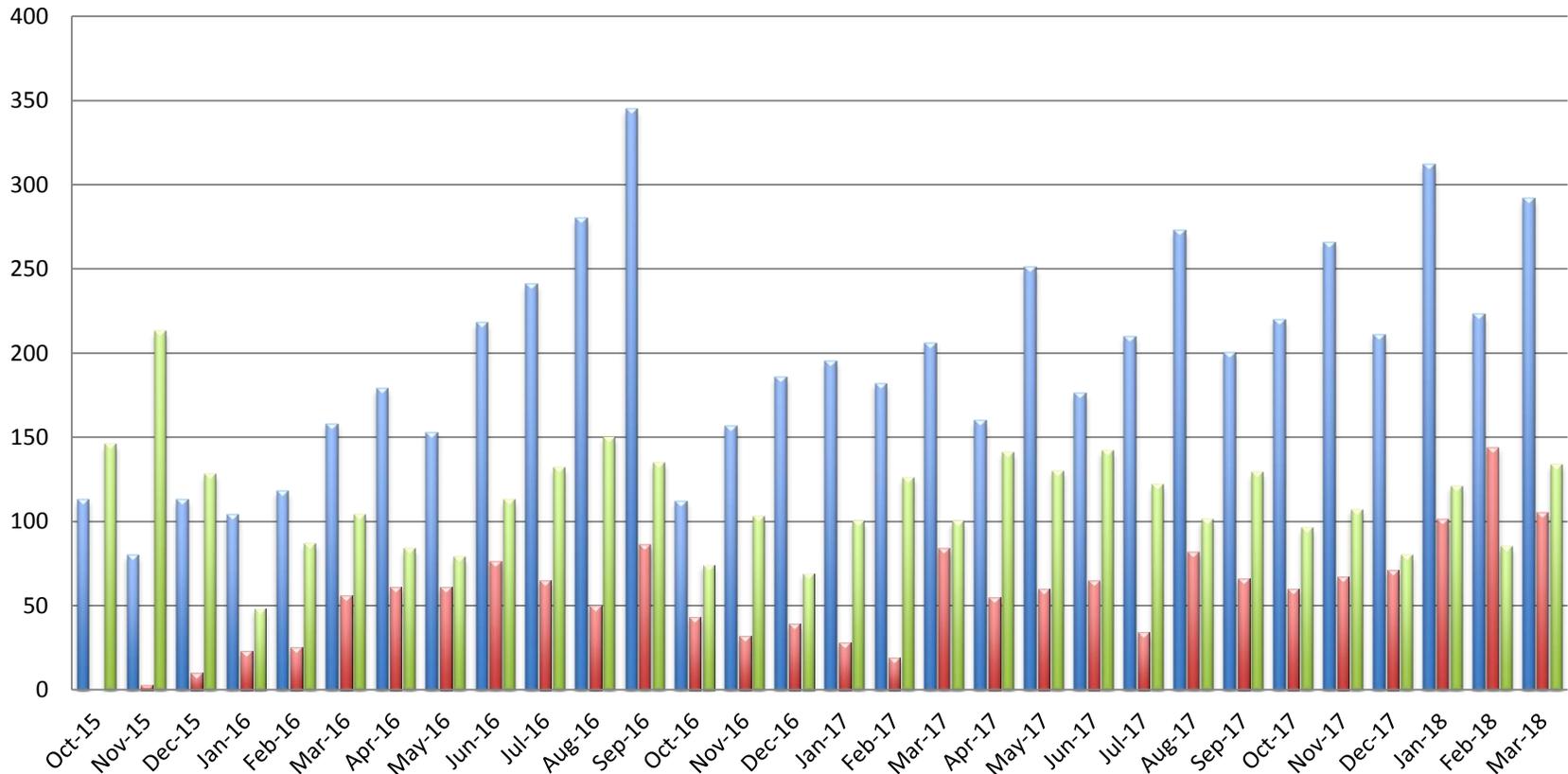
The Public Health Lab passed 4 federal audits

- 3 Centers for Medicare & Medicaid (CMS) Clinical Laboratory Improvement Amendments (CLIA) audit
- 1 CDC's Division of Select Agents and Toxins (DSAT) audit



MONTHLY FORENSIC SCIENCE OUTPUTS

Requests Completed by Month

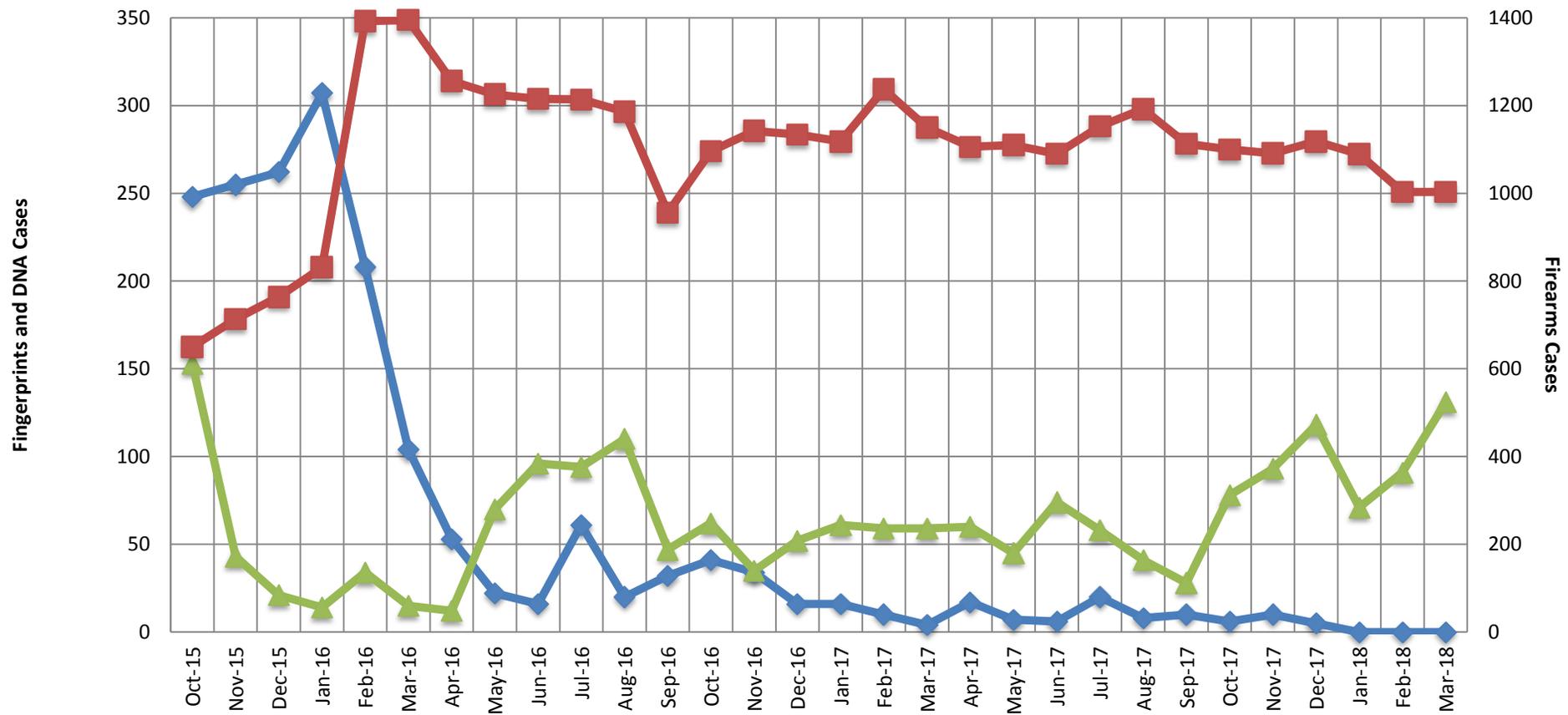


	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18
Fingerprints	113	80	113	104	118	158	179	153	218	241	280	345	112	157	186	195	182	206	160	251	176	210	273	200	220	266	211	312	223	292
Firearms	0	3	10	23	25	56	61	61	76	65	50	86	43	32	39	28	19	84	55	60	65	34	82	66	60	67	71	101	144	105
DNA	146	213	128	48	87	104	84	79	113	132	150	135	74	103	69	100	126	100	141	130	142	122	101	129	96	107	80	121	85	134



MONTHLY FORENSIC SCIENCE BACKLOG TOTALS

Forensic Science Backlog Totals



	Oct-15	Nov-15	Dec-15	Jan-16	Feb-16	Mar-16	Apr-16	May-16	Jun-16	Jul-16	Aug-16	Sep-16	Oct-16	Nov-16	Dec-16	Jan-17	Feb-17	Mar-17	Apr-17	May-17	Jun-17	Jul-17	Aug-17	Sep-17	Oct-17	Nov-17	Dec-17	Jan-18	Feb-18	Mar-18
Fingerprints	248	255	262	307	208	104	53	22	16	61	20	32	41	34	16	16	10	4	17	7	6	20	8	10	6	10	5	0	0	0
DNA	153	43	21	14	34	15	12	70	96	94	110	47	62	35	52	61	59	59	60	45	74	58	41	28	78	93	118	71	91	131
Firearms	650	713	764	831	1392	1395	1256	1225	1215	1214	1186	956	1096	1142	1134	1118	1237	1150	1106	1110	1090	1153	1192	1113	1100	1091	1118	1089	1003	1003



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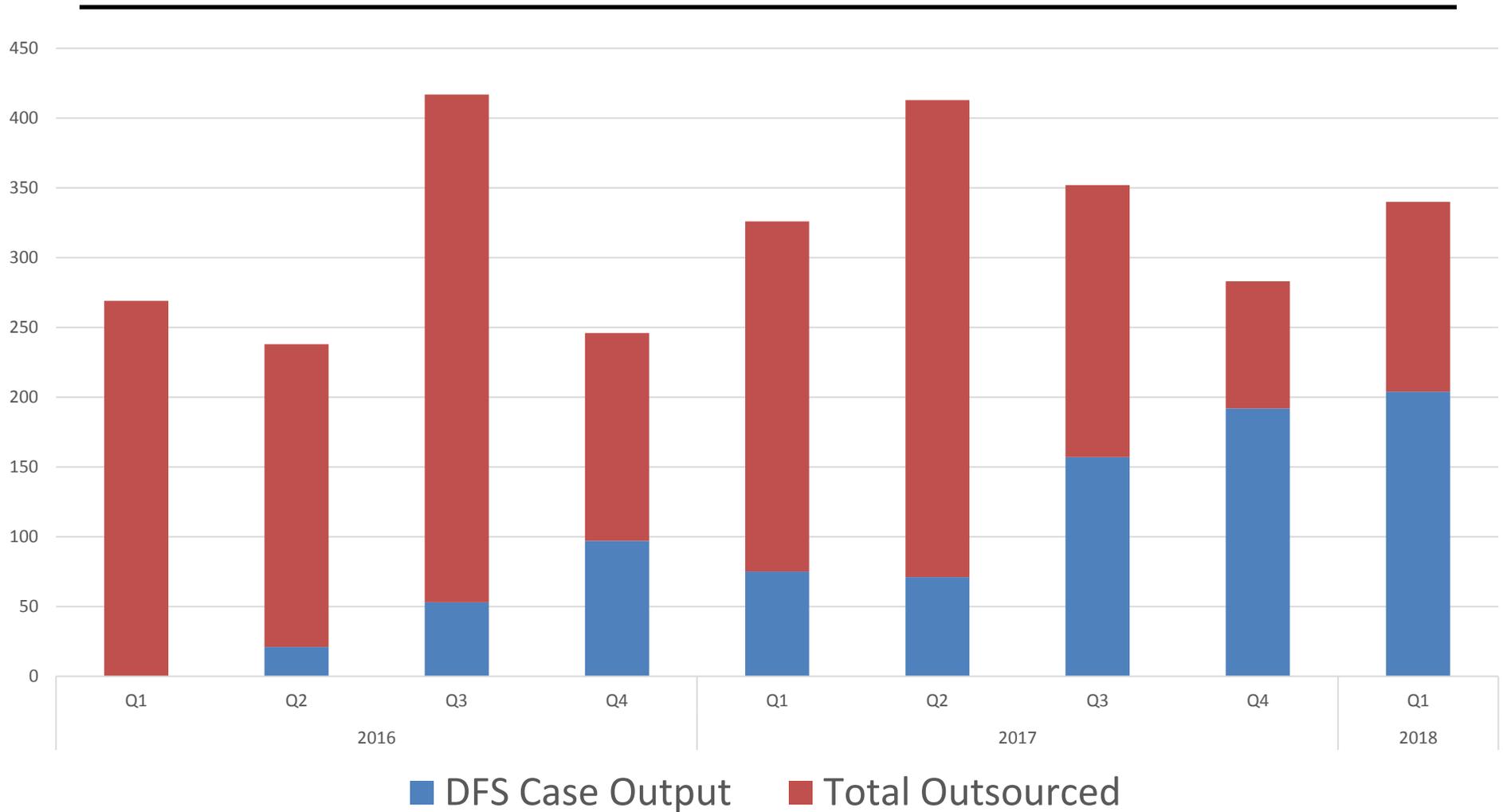
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FY19 BUDGET SUPPORTS

Continued Productivity within all FSL Units

- Supports contract analysts within FEU and LFU
 - LFU reporting out 98% of their homicide cases and 100% of their priority cases within 60 days
 - FEU reporting out 95% of their homicide cases and 100% of their priority cases within 60 days
- Supports outsourcing of DNA cases
 - FBU continues to have no backlog in sexual assault kits
 - Avg. TAT for kits is 42 days
 - Outsourcing allows for additional DNA cases to be worked in timely fashion (60 days)

DNA OUTSOURCING



FY19 BUDGET SUPPORTS: CSS

To date, DFS CSS personal have :

- Responded to 2,951 scenes
- Average response time of 25 minutes
- 76% of reports provided in less than 14 days
- Took custody of 37,745 items of evidence



FY18 ENHANCEMENTS FOR IT

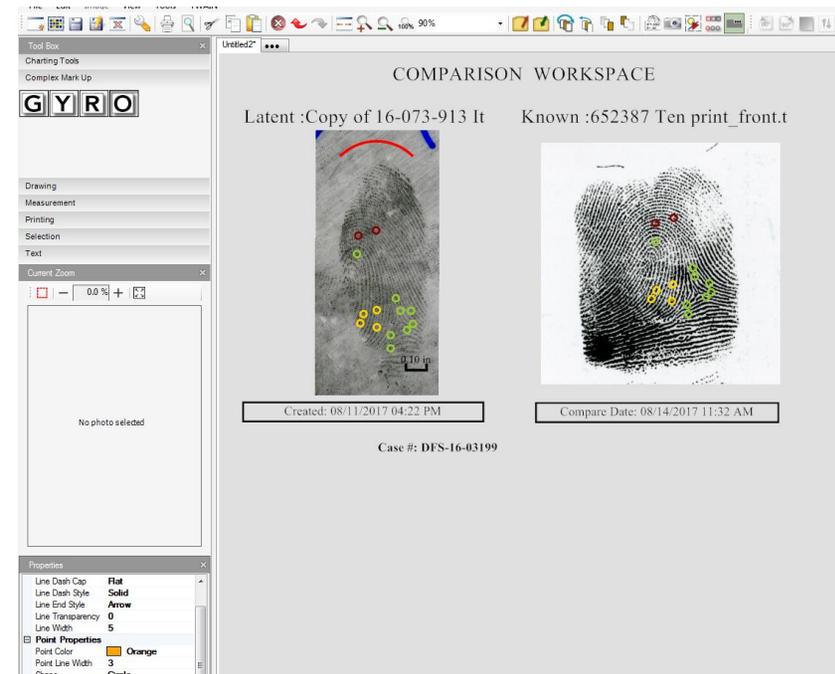
DFS implemented several new technologies that are IT data intensive:

- Mideo in both LFU and FEU
- NGS of DNA within PHL

New technologies will generate two (2) to four (4) terabytes of analytical data

The Forensic Technology Unit begin implementing the Forensic Evidence Digital Storage Capital requirement (Phase I)

- \$1 million in Capital Funds to expand digital storage capacity
- DFS purchased server and online storage capacity



SUMMER OF 2015

Sale of Synthetic Drugs Emergency
Amendment Act of 2015
July 10, 2015

Interim Director Named For Dept. of Forensic
Sciences
July 17, 2015

The Post's View

Weeding out synthetic drugs in D.C.



The Washington Post
Democracy Dies in Darkness

Mayor Muriel Bowser signs the Sale of Synthetic Drugs Emergency Amendment Act of 2015 into law Friday. (Amanda Voisard/For The Washington Post)

By Editorial Board July 11, 2015

NEARLY A dozen people were rushed to the hospital after a mass drug overdose at a D.C. homeless shelter last month. A woman was accused of abandoning a 10-month-old baby on a busy D.C. street. A seemingly crazed 18-year-old allegedly stabbed to death a man on a Metro train July 4. Authorities say the common denominator in these incidents was the use of synthetic drugs. Emergency legislation to deal with the rising use of the dangerous substances comes none too soon.

Mayor Muriel E. Bowser (D) on Friday signed into law a measure that aims to combat the use of these drugs by cracking down on the businesses that trade in them. The drugs — smokable herbal products coated with chemicals that mimic the active ingredient in marijuana — are marketed under names such as Scooby Snax or K2 and can be found at liquor and convenience stores and gas stations. Popular with young people, their appeal has spread to vulnerable populations such as the homeless, and abuse is fast becoming a national problem.

cases in the District

synthetic cannabinoid patient cases reported by department remained below 30 a month until 39 cases last



EMS Department

THE WASHINGTON POST

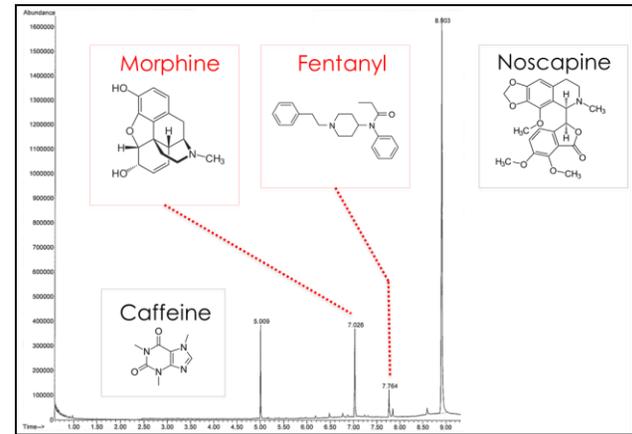


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DFS "DRUG LAB" DEVELOPMENT



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DFS "DRUG LAB" DEVELOPMENT



APR 16

MAY 16



JUL 16

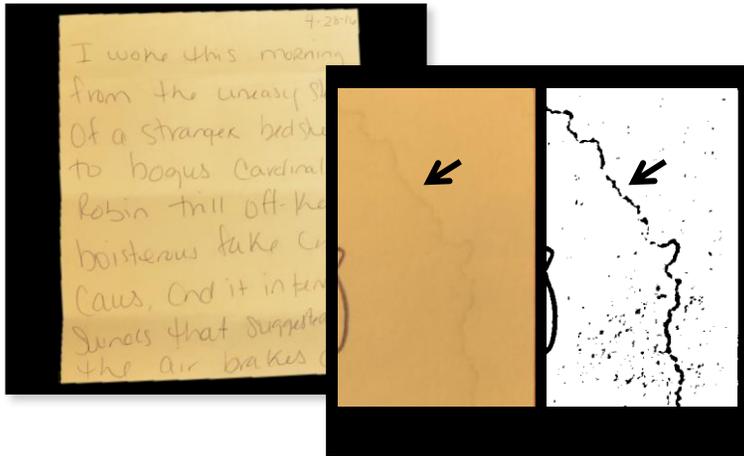


MAR 17

APR 17

**SAFE DC
PASSES!**

**First Case!
(DOC)**

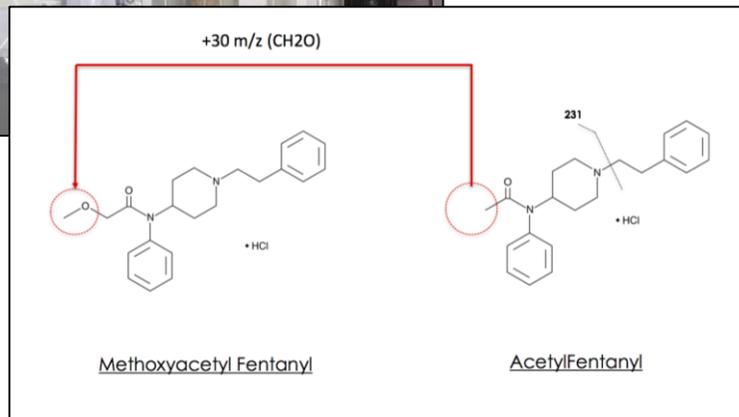


5-Fluoro-ADB

“DRUG LAB” - VALUE ADDED

July, 2017 – New Synthetic Opioid Discovered!

Methoxyacetyl Fentanyl



- Screen of syringe resulted in a “no hit” peak (DEA and NIST database)
- Peak had characteristics of a fentanyl analog
- Structural elucidation indicated Methoxyacetyl Fentanyl (confirmed)
- OCME could then order expanded toxicology test



FCU ACCREDITED (Feb.18)



SCOPE OF ACCREDITATION TO:
ISO/IEC 17025:2005
ANAB ISO/IEC 17025 Accreditation Requirements
for Forensic Science Testing Laboratories:2016
FBI Quality Assurance Standards for Forensic Testing Laboratories:2011

DC Department of Forensic Sciences
401 E Street SW
Washington, DC 20024

FORENSIC SCIENCE TESTING

Valid to: October 31, 2018 Certificate Number: AT-1819

1.0 Materials Examined

Category	Sub Category	Analytical Technique (See 2.0)
1.1 Latent Prints	1.1.1 Latent Examination and Identification 1.1.2 AFIS and IAFIS database	2.2, 2.5.1 and 2.6 2.2.5 and 2.6
1.2 Firearms	1.2.1 Firearms Identification and Examination 1.2.2 NIBIN database 1.2.3 Serial Number Restoration	2.2.1, 2.2.3, 2.2.4, 2.5.1, and 2.6 2.2.1, 2.2.3, 2.2.4, 2.5.1, and 2.6 2.5.1 and 2.6
1.3 Biology	1.3.1 Biological screening 1.3.2 DNA - Casework 1.3.2.1 CODIS	2.1.1, 2.1.2, 2.5.1 and 2.6 2.3.1, 2.4.1, 2.4.2 and 2.6 2.6
1.4 Chemistry	1.4.1 Qualitative Unknown Controlled Substance	2.6.1, 2.6.2, 2.6.3, 2.6.4

2.0 Analytical Technique/Test Method

2.1 Chemical Screening Tests 2.1.1 Color tests 2.1.2 Immunoassay
2.2 Physical Examination 2.2.1 Striation comparison 2.2.2 Physical reconstruction 2.2.3 Other physical examination 2.2.3.1 Weighing 2.2.3.2 Other physical measurements

Version 005 Issued: 02/06/2018

Page 1 of 2

2000 Regency Parkway, Suite 430, Cary, NC 27518
414-501-5494 www.anab.org



DC Department of Forensic Sciences

AT-1819

2.2.4 Pattern Comparison, Pattern Recognition 2.2.5 Friction Ridge Analysis
2.3 Electrophoresis 2.3.1 Capillary electrophoresis 2.3.2 Other electrophoresis
2.4 DNA 2.4.1 PCR 2.4.2 STR
2.5 Microscopy 2.5.1 Optical
2.6 Unknown Controlled Substance 2.6.1 Color Test (Presumptive) 2.6.2 GC-MS (presumptive and/or confirmation) 2.6.3 GC-FID (confirmation) 2.6.4 FT-IR for cocaine-HCl vs. cocaine base
2.7 General Laboratory Procedures

Pamela L. Sale
Vice President, Forensics

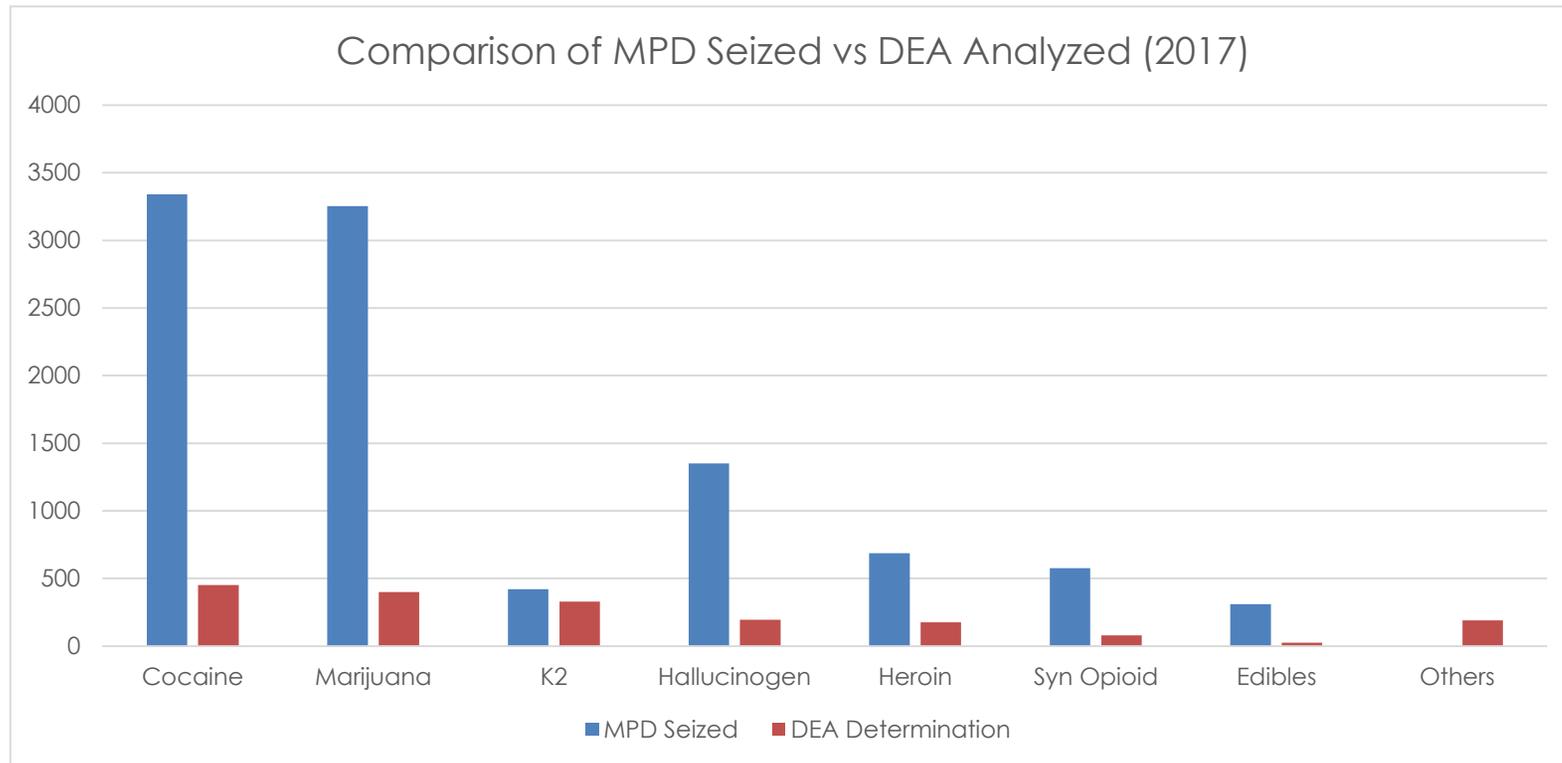


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MPD Exhibits 2017



In total, about 19% are tested by DEA lab
(6 chemists, 1 instrumentalist, 1 evidence tech)
(About 26 – 30% time to testimony)

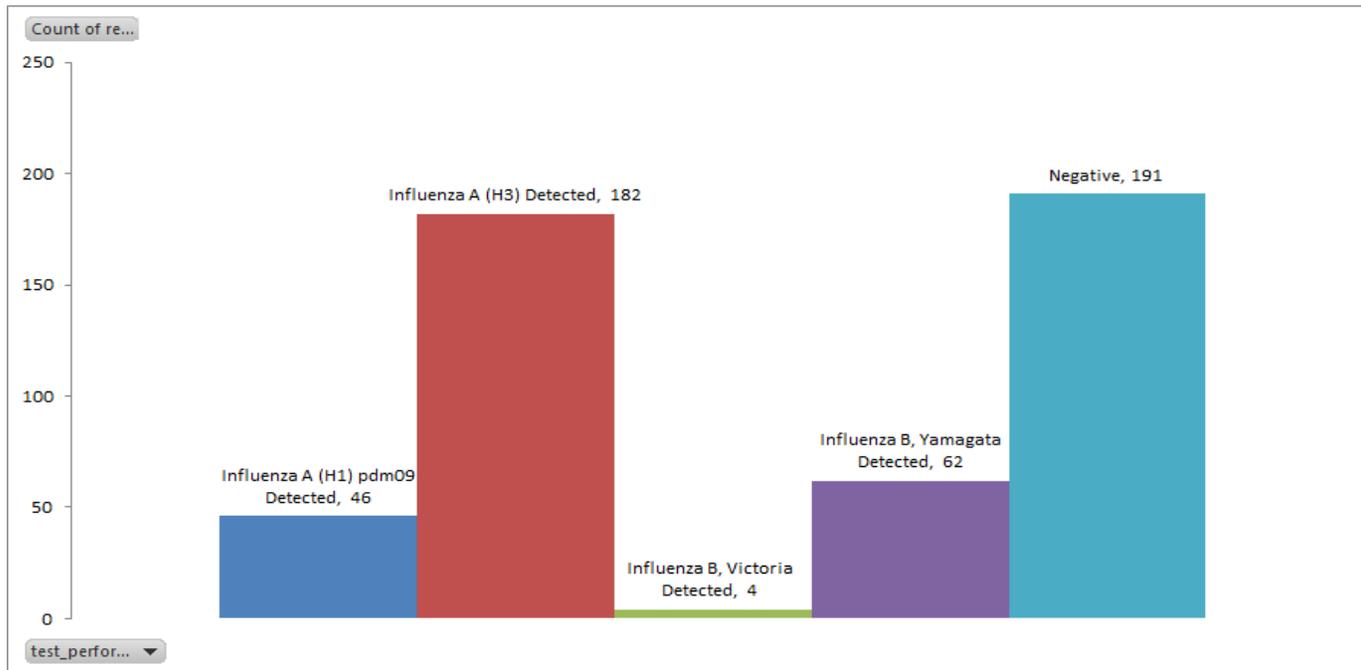
(MPD Statistics estimated from subsample of 450 exhibits from Feb to April, 2017)
(DEA Statistics are 100% sampling over 2.5yrs)

FY19 BUDGET SUPPORTS:PHL

Influenza Surveillance Program

In FY18 PHL tested 464 patient samples an increase from 80 samples in FY17.

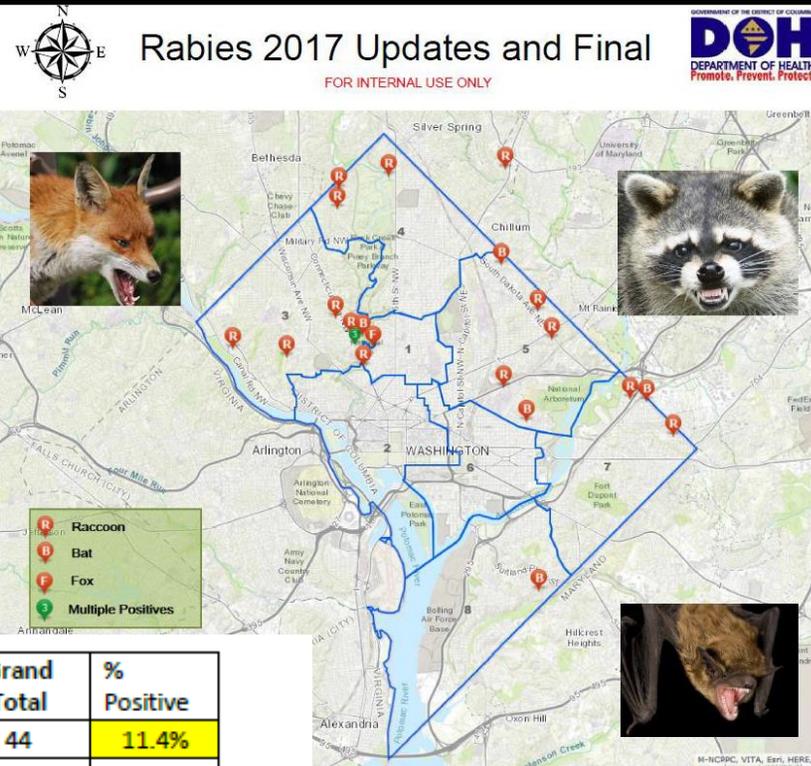
- 231- Influenza A detected
- 63 - Influenza B detected
- 170 - Influenza A/B not detected



FY19 BUDGET SUPPORTS:PHL

PHL is the only laboratory that can conduct rabies testing for the District in support of the DC Health.

- In FY17, 191 samples were brought to PHL.
- To date, in FY18, 107 samples have been tested.



Animal Type	Negative	Positive	Inconclusive	Liquified	Grand Total	% Positive
Bat	38	5	1		44	11.4%
Beaver	1				1	
Cat	30		2		32	
Coyote	1				1	
Dog	65		2		67	
Fox	1	1			2	50.0%
Groundhog	3				3	
other/ White Tailed Dear	2				2	
Raccoon	19	17	2	1	39	43.6%
Grand Total	160	23	7	1	191	12.0%
%	83.8%	12.0%	3.7%	0.5%		

Figure 4: Location of Wildlife Rabies positive cases in the DC area

FY19 BUDGET SUPPORTS:

SUSTAINED TRAINING

This year DFS has delivered over 648 hours of instruction, covering issues such as

- cognitive bias and quality assurance,
- discipline-specific topics for DNA, firearms, fingerprint examiners, and public health lab scientists, and
- Sexual Harassment Prevention Training.

CONTINUOUS QUALITY

In FY19 DFS will conduct internal inspections and participate in external audits needed to maintain

- ISO/IEC 17025:2005 accreditation in critical forensic disciplines.
- compliance with the Centers for Medicare & Medicaid Services' Clinical Laboratory Improvement Amendments (CLIA) regulatory guidelines.
- compliance with CDC's Division of Select Agents and Toxins (DSAT) within our PHL.

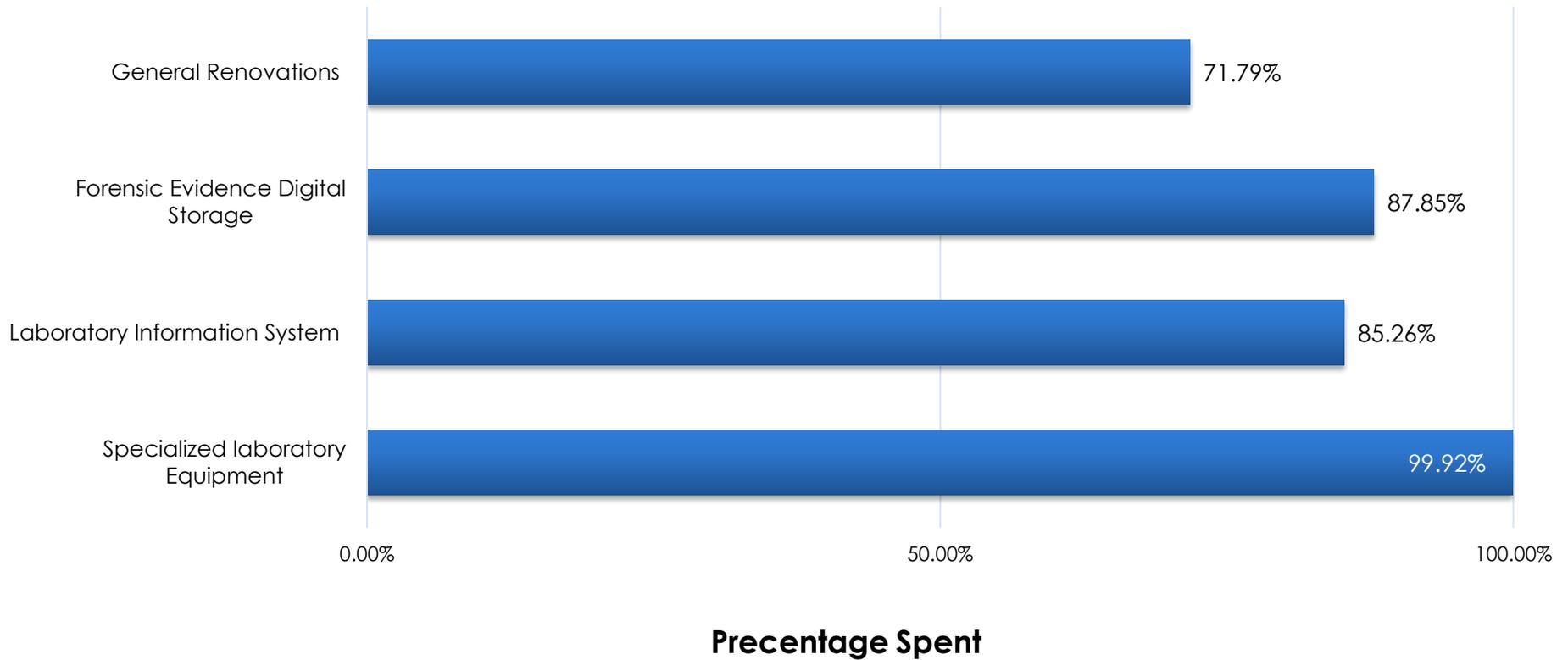
FY 2019 – 2024

CAPITAL IMPROVEMENTS PLAN

Project	FY19	FY20	FY21	FY22	FY23	FY24	6 Year Total
Capital and IT Equipment	\$1,211						\$1,211
Capital Renovations	\$250						\$250
Crime Scene Specialized Vehicles	\$222	\$154					\$375
Laboratory Information Management System	\$500	\$4,000					\$4,500
Forensic Evidence Digital Storage (Phase II)	\$803						\$803
Laboratory & Hospital Equipment(Replacement)	\$140	\$80	\$200	\$200	\$200		\$820
Total	\$3,126	\$4,234	\$200	\$200	\$200	\$0	\$7,959

(Dollars in Thousands)

Capital Expenditures



PHL EQUIPMENT PURCHASES

PHL Specialized Laboratory Equipment

FY2017 - \$433,580.96 (Capital)

- Agilent Technologies
- Biomerieux (eMAG)
- Dynex Technologies
- DiaSorin

FY2018 - \$145,000 (Capital + Local)

- High Performance Liquid Chromatography (HPLC)



CAPITAL AND IT EQUIPMENT

FY19	FY20	FY21	FY22	FY23	FY24	6 Year Total
\$1,211						\$1,211

Laboratory Equipment

DFS anticipates \$1.2 M in that will need to be purchased in FY19

- Dell PS6610 Equilogic
- LEEDS Comparison Microscope
- Microscope Upgrade
- Agilent Tape Station
- Cepheid GeneExpert
- Blood Drying Cabinets



(Dollars in Thousands)

CAPITAL RENOVATIONS

FY19	FY20	FY21	FY22	FY23	FY24	6 Year Total
\$250						\$250

Biological Safety Level 3 (BSL-3)

- Analyses are conducted for potentially lethal microbes,
- Examples include Yellow Fever, Tuberculosis, Ebola, Rabies, and suspicious white powder samples submitted by the Federal Bureau of Investigations (FBI)
- BSL-3 can be improved for optimal workflow efficiency and enhance security measures.

(Dollars in Thousands)

CRIME SCENE SPECIALIZED VEHICLES

FY19	FY20	FY21	FY22	FY23	FY24	6 Year Total
\$222	\$154					\$375

Crime Scene Sciences

- Responsible for the collection and preservation of evidence from crimes scenes in the District of Columbia
- Vehicles are utilized 24 hours per day, 7 days a week
- Under the OCFO guidance, DFS has identified 9 crime scene vehicles that need to be replaced

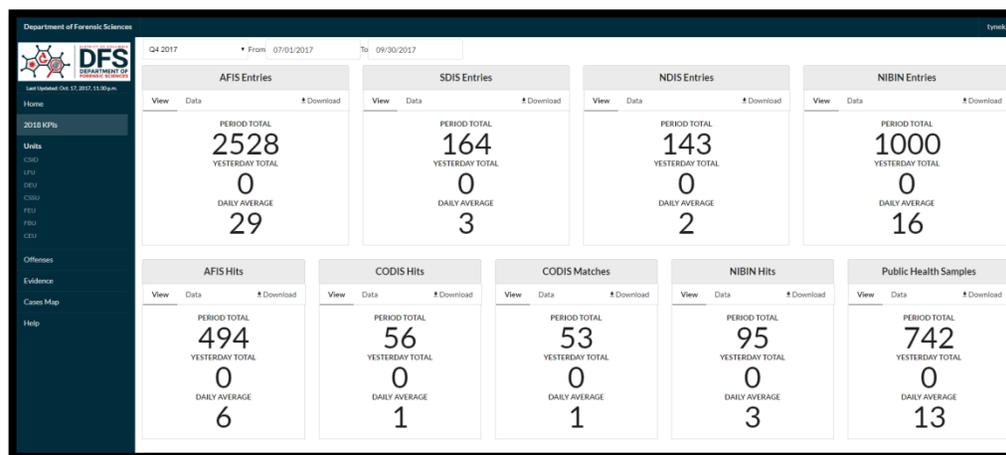
(Dollars in Thousands)

LABORATORY INFORMATION MANAGEMENT SYSTEM

FY19	FY20	FY21	FY22	FY23	FY24	6 Year Total
\$500	\$4,000					\$4,500

Information Laboratory Management System -spent \$2.2 million implementing LIMS for the :

- Forensic Science Laboratory & Crime Scene Sciences – JusticeTrax Lims+
- Forensic Biology Unit – STaCSDNA
- Public Health Lab – Chemware Horizon
- Comprehensive dashboard to track information and export data
- FY18 Cap. FY18 funds project to refine requirement
- FY19 will finalize requirements and review possible COTS LIMs products
- FY20 will cover implementation and anticipated development.



(Dollars in Thousands)

DIGITAL FORENSIC EVIDENCE STORAGE (Phase II)

FY19	FY20	FY21	FY22	FY23	FY24	6 Year Total
\$803						\$803

DFS is currently in Phase I of the Digital Forensic Evidence Storage Project

- Agency has purchased a Flash Storage Solution and currently in the process of upgrading equipment in CFL Server Room

Phase II – Data Protection and Disaster Recovery

- In FY19, DFS will expand the digital storage capability
- Purchase switch for High Availability and redundancy (DC-Net)
- In-rack fire suppression system to protect data

Items	Cost
Fire Suppression System	\$250,000
Phase II Storage Expansion	\$423,000
High Availability Switch	\$130,000

(Dollars in Thousands)

LABORATORY & HOSPITAL EQUIPMENT (Replacement)

FY19	FY20	FY21	FY22	FY23	FY24	6 Year Total
\$140	\$80	\$200	\$200	\$200		\$820

In FY 2017, DFS provided the OCFO with access to our Capital Equipment Inventory Tracker Database (InFlow)

- OCFO entered equipment into the Capital Assets Replacement Scheduling System (CARSS)
- OCFO adopted a 5 year replacement schedule
- Specialized laboratory equipment was either purchased in FY 2011 or provided by MPD and DOH

(Dollars in Thousands)



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ACKNOWLEDGEMENTS

I would like to thank the Mayor and her staff for the generous support given to the Department. The resources allocated to DFS will play a critical role in supporting residents' efforts to reach and remain on the pathway to the middle class.

I would like to recognize and thank all of the DFS employees for their support in ensuring the Department is run efficiently and effectively and for their untiring efforts to make the District a safer city.

Finally, The Council and this Committee, led by you, Chairperson Allen, have been key allies, and I appreciate your continued efforts to ensure our agency is appropriately staffed and adequately funded to support our mission to provide high-quality, timely, accurate, and reliable forensic science services with the use of best practices and best available technology.